

IN THE CLAIMS:

Please cancel all of the claims presently in the application and substitute new claims 9-16 as follows:

9. (New) Method for monitoring a traffic state in a traffic network which may incur one or more effective bottlenecks, said method comprising:

recording measured traffic data for at least one traffic parameter, including at least one of information on traffic intensity and average vehicle speed;

based on the recorded information, classifying the traffic state into one of a plurality of state phases including at least the state phases of “free traffic” and “synchronized traffic”; wherein,

when an edge fixed at an effective bottleneck of the traffic network is detected between downstream free traffic and upstream synchronized traffic, the traffic state upstream of said bottleneck is classified as conforming to a pattern of dense traffic that is representative of the bottleneck, which pattern includes one or more different consecutive upstream regions of different state phase composition; and

an associated profile of the traffic parameters is taken into account in classifying the state phase determination.

10.. (New) The method according to Claim 9, wherein:

when an individual pattern of dense traffic arising initially at an effective bottleneck in a particular route section, reaches a next preceding effective bottleneck in an upstream direction, classifying a traffic state in this particular route section as conforming to an overarching pattern, representative of included effective bottlenecks of dense traffic which, like a respective individual pattern, includes one or more different consecutive upstream regions of different state phase composition; and

an associated profile of the traffic parameters is taken into account in classifying the state phase.

11. (new) The method according to Claim 9, wherein:

pattern assigned to an effective bottleneck or as overarching pattern common, to a plurality of effective bottlenecks, of dense traffic with a time-dependent and location-dependent traffic parameter profile, is empirically determined from recorded measured traffic data and stored in a manner which can be called up.

12. (New) The method according to Claim 11, wherein:

for a particular bottleneck, it is established as a function of vehicle influx, whether the pattern comprises one of three pattern variants, being i) only a region of synchronized traffic, ii) a region of synchronized traffic and a pinch region adjoining upstream, or iii) a region of synchronized traffic, a pinch region adjoining upstream and a region of moving widespread congestion adjoining upstream;

associated edge positions are determined between the respective different state phases; and

each of the three pattern variants is assigned a corresponding time-dependent and location-dependent profile of the average vehicle speed and/or the traffic flow and/or the traffic density.

13. (New) The method according to Claim 10, wherein:

for the traffic network, it is established as a function of vehicle flows, where and in what temporal sequence overarching patterns arise, in what temporal and spatial sequence regions of “synchronized traffic”, “pinch region” and “moving widespread congestion” arise and develop in each overarching pattern, and whether overlaps of such regions take place; and

for a particular overlap, temporal and spatial characteristics of congestion points through regions of synchronized traffic and/or congested synchronized traffic are predicted.

14. (New) The method according to Claim 12, wherein the temporal evolution of at least one of edge positions of the regions of a respective pattern of dense traffic, edge positions of congestion points inside various overarching patterns, and occurrence of a new overarching pattern, is currently estimated and predicted for future points in time.

15. (New) The method according to Claim 12, wherein travel time for respective individual or overarching patterns of dense traffic currently estimated or predicted for future points in time.

16. (New) The method according to Claim 12, wherein:

current vehicle influx data is detected for respective individual or overarching patterns of dense traffic;

current data indicative of positions of the edges between the pattern regions are determined; and